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Timothy A. Long
Chernoff, Vilhauer, McClung & Stenzel, LLP
1600 ODS Tower
601 S.W. Second Avenue
Portland, OR 97204-3157

EXAMINER	
DIVINE, LUCAS	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/823,457	LEVIN ET AL.	
	Examiner	Art Unit	
	Lucas Divine	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: it contains 2 steps, both labeled (a). Unless they are the same step, they should have different label letters. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10 – 13, 16, and 19 – 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 19, in step (d) a boundary is located from at least one pixel in at least one scan line and in step (e), **an original size is calculated based on a located boundary**. The specification describes relying on 'statistical data' in the paragraph starting on page 6 line 20 for calculating a size from a located boundary. This description does not describe the subject matter in a way as to enable one skilled in the art to calculate a size of an original image from locating a boundary.

Regarding claims 10, 11 and 16, these claims include the same discussed limitation as claim 19 and are rejected for the same reason.

Regarding claims 12 and 13, these claims are rejected due to their dependence on rejected claim 11, thus inheriting rejected limitations.

Regarding claims 20 – 22, these claims are rejected due to their dependence on rejected claim 11, thus inheriting rejected limitations.

3. Claims 1 – 4, 8, 9, 16, and 19 – 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 19, step (d) claims locating a boundary from a detected pixel. The specification states location of a boundary may be determined from statistical data corresponding to the detection of a pixel at the boundary of the original (page 6 line 25). The specification does not teach **how the boundary pixel is located in the scan lines or how the boundary of the document is located from the pixel location**. Thus, the specification is not enabling to one skilled in the art.

Regarding claims 1, 2, 8, 10, and 16, these claims include the same discussed limitation as claim 19 of identifying a datum and locating a boundary based on the datum and are rejected for the same reason.

Regarding claims 3, 4, 9, and 20 – 22, these claims are rejected due to their dependence on rejected parent claims above, thus inheriting rejected limitations.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Son et al. (US 6005683) hereafter referred to as Son.

Regarding claim 1, Son teaches **a method of determining a size of a scanned original comprising the steps of:**

(a) scanning said original at a full resolution to convert said original to scan data representing a plurality of pixels (scanning elements shown in Fig. 3 for scanning to pixel scan data discussed in col. 2 lines 31-32)**; and**

(b) identifying a datum of said scan data corresponding to a boundary of said original (Fig. 2 steps 104, 112, and 118 show identifying data corresponding to edges 'boundaries' of the scanned original).

Regarding claim 2, which depends from claim 1, Son further teaches that the **step of identifying a datum of said scan data corresponding to a boundary of said original comprises the steps of:**

(a) identifying in a line of said scan data a first datum corresponding to a first boundary of said original (Fig. 2 step 104, col. 2 lines 40-41, wherein an edge is detected based a pixel corresponding to it based on pixel 'data' analysis); **and**

(a) identifying in said line of scan data a second datum corresponding to a second boundary of said original (Fig. 2 step 112, col. 2 lines 40-41, wherein a second edge is detected based a pixel corresponding to it based on pixel 'data' analysis).

5. Claims 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Rourke (US 5191429).

Regarding claim 14, Rourke teaches **a method of producing a plurality of copies** (Fig. 9) **of an original** 160 **on a copy medium** 108 **comprising the steps of:**

(a) scanning said original at a full resolution to convert an image of said original to a plurality of data representing a plurality of pixels of said original (scanning completed by scanner 6, wherein the image is converted to pixel scan data, col. 3 lines 6-16);

(b) determining an arrangement for printing a plurality of copies of said original on a selected copy medium (Fig. 9, wherein the business card is the original 160 and is arranged for printing on a selected copy medium); **and**

(c) printing said copies from said data according to said arrangement (shown as the 9th step of Fig. 14 as printed by printer 8).

Regarding claim 15, which depends from claim 14, Rourke further teaches that **the step of determining an arrangement for printing a plurality of copies of said original on a selected copy medium comprises the steps of:**

(a) determining a dimension of said original (the image dimensions are calculated by the system as shown in Fig. 10 in the image size box as well as implied by the cropping done to the image after knowing its size within the platen, discussed in col. 6 lines 35-52); **and**

(b) calculating a multiple of said dimension that will not exceed at least one of a width or a length of said copy medium (shown as the 7th step of Fig. 14 and taught in col. 7 lines 60-63).

6. Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Gusmano (US 5796877).

Regarding claim 5, Gusmano teaches **a method of producing a copy of an original scaled to fit a selected copy medium comprising the steps of:**

(a) scanning said original at a full resolution to convert said original to a plurality of scan data representing a plurality of pixels of said original (Fig. 1 scanner 23, col. 2 lines 65-67, wherein the scanner scans an original to produce image scan data);

(b) calculating at least one of a magnification and a reduction of said original to scale a copy of said original to fit at least one of a length and a width of said copy medium (Fig. 2 step S11, col. 3 lines 17-20, wherein a scaling factor is computed to determine the size the original would be to fit on the output medium, further shown in Figs. 3 and 4); **and**

(c) printing said copy from said scan data at one of said calculated magnification and reduction (col. 3 lines 21-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 16, 18, 19, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rourke and Son.

Regarding claim 19, Rourke teaches **a method of producing a plurality of copies** (Fig. 9) **of an original** 160 **on a copy medium** 108 **comprising the steps of:**

(a) scanning to convert a line of pixels of said original to scan data (scanning completed by scanner 6, wherein the image is converted to pixel scan data, col. 3 lines 6-16);

(e) calculating a size of said original image (the image size is calculated by the system as shown in Fig. 10 in the image size box as well as implied by the cropping done to the image after knowing its size within the platen, discussed in col. 6 lines 35-52);

(f) calculating a multiple of said size that will not exceed a dimension of a selected copy medium (shown as the 7th step of Fig. 14 and taught in col. 7 lines 60-63); **and**

(g) printing from said scan data a plurality of copies of said original equal to said multiple (shown as the 9th step of Fig. 14 as printed by printer 8).

While Rourke teaches a multi-function scanning/image processing/printing system for the scanning, adjusting, and printing of documents, Rourke fails to specifically teach utilizing pixel information for determining the original size.

Son teaches an edge detection system for use in multi-function office products (col. 2 lines 16-18) including utilizing pixel information for determining the original size. Son's size determining includes the following steps:

(b) detecting a pixel of said original in said line of scanned pixels (col. 4 lines 16-17, wherein scanned pixel data is input into the detection scheme and pixels are implicitly detected in pixel data);

(c) repeating steps (a) and (b) for a plurality of lines of a full resolution scan of said original (Fig. 2 step 108, col. 6 line 58, wherein the detection process is repeated for a plurality of lines);

(d) locating a boundary of said original from at least one of said detected pixels of at least one of said lines of scanned pixels (Fig. 2 step 104, col. 2 lines 36-42 and col. 6 lines 1-8, wherein the step of locating an edge 'boundary' is completed by pixel analysis of the line of scanned pixels); **and**

(e) calculating a size of said original image from said location of said boundary (col. 6 lines 62-64, wherein the edge pairs are found and an image size can be calculated).

It would have been obvious to one of ordinary skill in the art to calculate the size of an image by the method of Son in the image size detecting step of Rourke. The motivations for doing so would have been to save memory space by providing proper clipping to only save what is needed in the memory (Son col. 2 lines 3-4), to provide a more robust edge detection algorithm (Son col. 6 line 48), and to perform size detection without the use of extra hardware or a pre-scan because the edge detection is completed not by hardware units but by software steps in controller/processor 50 as shown in Fig. 3 of Son.

Regarding claim 20, which depends from claim 19, Rourke further teaches the steps of:

(a) storing said scan data (Fig. 2, wherein the scan data enters controller 7 and is manipulated for printing and stored in disk 56; col. 4 lines 53-56)**; and**

(b) printing said copy from said stored scan data (printed from printer 8 as shown in the 9th step of Fig. 14)**.**

Regarding claim 22, which depends from claim 19, Son further teaches that **the step calculating a size of said original image from said location of said boundary comprises the steps of:**

(a) detecting a first pixel of said original in a line of scanned pixels (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels)**;**

(b) detecting another pixel of said original in a line of scanned pixels (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting another pixel other than the first)**;**

(c) locating a first boundary of said original from said location of said first detected pixel (Fig. 2 step 104, wherein an edge is located from the location of pixels in the scan line)**;**

(d) locating another boundary of said original from said location of said another detected pixel (Fig. 2 step 112 wherein another edge is found from the location of pixels in the scan line)**; and**

(e) calculating a distance separating said first boundary and said another boundary (Fig. 2 step 118 shows the left and right edge coordinates and col. 6 line 41 teaches summing the pixels in a line which is the distance between the edges)**.**

Regarding claim 16, which depends from claim 15 as it depends from claim 14, Rourke teaches all the limitations of parent claims 14 and 15. The added limitations of claim 16 are the same added limitations that Son teaches as discussed in claim 19. Thus it would have been obvious to add Rourke and Son to reject claim 16 for the same reasons as in the rejection of claim 19 above and claim 16 is rejected for those reasons.

Regarding claim 18, which depends from claim 15 as it depends from claim 14, Rourke teaches all the limitations of parent claims 14 and 15. The added limitations of claim 16 are the same added limitations that Son teaches as discussed in claim 22. Thus it would have been obvious to add Rourke and Son to reject claim 18 for the same reasons as in the rejection of claim 22 above and claim 18 is rejected for those reasons.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Son and Rourke as applied to claim 19 above, and further in view of Furuoya (US 5805294).

Regarding claim 21, which depends from claim 19, Rourke and Son teach all of the limitations of parent claim 19.

While the combination of Rourke and Son teach the scanning, size detection, and multiple printing of an original, the combination does not specifically teach calculating the number of scan lines.

Furuoya teaches a scanning system for document size detection including calculating the number of scan lines (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size) as including in **the steps of:**

(a) identifying at least two scan lines including a detected pixel of said original (counting of the lines implies identifying the lines to count);

(b) locating a first boundary and a second boundary of said original according to a relationship of said detected pixels (col. 3 line 62 teaches the reset of the counter at the final boundary of the page, which also implies that the counter starts counting when the first boundary – beginning of the page – is located); **and**

(c) calculating a number of scan lines intervening between said first and said boundaries (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size).

It would have been obvious to one of ordinary skill in the art to detect document length, as in Son with the method of Furuoya, namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

9. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son in view of Furuoya (US 5805294).

Regarding claim 3, which depends from claim 2 as it depends from claim 1, Son teaches all of the limitations of parent claims 1 and 2.

While Son teaches the scanning and size detection of an original, Son does not specifically teach calculating the number of scan lines.

Furuoya teaches a scanning system for document size detection including **calculating the number of scan lines between a third and fourth boundary** (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size, wherein the top and bottom edges – 3rd and 4th – are detected).

It would have been obvious to one of ordinary skill in the art to detect document length, as in Son with the method of Furuoya, namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

Regarding claim 4, which depends from claim 1, Son teaches all of the limitations of parent claim 1.

While Son teaches the scanning and size detection of an original, Son does not specifically teach calculating the number of scan lines.

Furuoya teaches a scanning system for document size detection including **calculating the number of scan lines between a boundary and another boundary** (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size, wherein the top and bottom edges are detected).

It would have been obvious to one of ordinary skill in the art to detect document length, as in Son with the method of Furuoya, namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rourke and Furuoya.

Regarding claim 17, which depends on claims 15 as it depends on claim 14, Rourke teaches all of the limitations of parent claims 14 and 15.

Rourke further teaches **(a) identifying a plurality of said data corresponding to a line of scanned pixels** in col. 3 lines 6-16, wherein a line like segment of pixels is input to the processor for processing.

Rourke does not specifically teach counting the lines between first and second detected lines.

Furuoya teaches:

(b) identifying a first scan line corresponding to a first boundary of said original (counting of the lines implies identifying the lines to count and the first boundary is identified as the reset location at the end of a page scan; see col. 3 line 62 where the document line counter is reset when the end is reached);

(c) identifying a second scan line corresponding to a second boundary of said original image (counting of the lines implies identifying the lines to count and the second boundary is identified in order to reset to the start location at the end of a page scan; see col. 3 line 62 where the document line counter is reset when the end is reached); **and**

(d) determining a number of scan lines intervening between said first and said second scan lines (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size).

It would have been obvious to one of ordinary skill in the art to detect document length, as in Rourke for detecting the size of the image with the method of Furuoya , namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

11. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gusmano and Furuoya.

Regarding claim 6, which depends from claim 5, Gusmano teaches all of the limitations of parent claim 5 including **(d) calculating a scale that does not exceed at least one of length and said width of said copy medium** (Fig. 2 step S11, col. 3 lines 17-20, wherein a scaling factor is computed to determine the size the original would be to fit on the output medium, further shown in Figs. 3 and 4).

While Gusmano teaches detecting the size of an input document (col. 3 line 40), Gusmano does not specifically teach counting the lines between first and second detected lines for this detection.

Furuoya teaches:

(b) identifying a first scan line corresponding to a first boundary of said original (counting of the lines implies identifying the lines to count);

(c) identifying a second scan line corresponding to a second boundary of said original image (counting of the lines implies identifying the lines to count); **and**

(d) determining a number of scan lines intervening between said first and said second scan lines (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size).

It would have been obvious to one of ordinary skill in the art to detect document size, as in Gusmano for detecting the size of the image with the method of Furuoya , namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

Regarding claim 7, which depends from claim 6 as it depends from claim 5, the pixel counter 23_1 in Fig. 4 shows the ability to detect and count pixels in a line, thus teaching **identifying a line of said scan data comprising a scan datum corresponding to a pixel of said original.**

12. Claims 8 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gusmano and Son.

Regarding claims 8 and 9, which depends from claim 5, Gusmano teaches all of the limitations of parent claim 5.

While Gusmano teaches detecting the size of an input document (col. 3 line 40), Gusmano does not specifically teach using pixel boundary locating for this detection.

Son teaches:

(a) locating a first boundary datum (claim 9 specifies pixel) of said original in a line of scanned data (pixels) (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels);

(b) locating a last boundary datum (claim 9 specifies pixel) of said original in a line of scanned data (pixels) (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels);

(c) repeating steps (a) and (b) for another line of scan data (Fig. 2 step 108, col. 6 line 58, wherein the detection process is repeated for a plurality of lines);

(d) locating a first boundary of said original from said location of said first detected pixel (Fig. 2 step 104, wherein an edge is located from the location of pixels in the scan line);

(e) locating a second boundary of said original from said location of said another detected pixel (Fig. 2 step 112 wherein another edge is found from the location of pixels in the scan line); **and**

(f) calculating a scale of a distance between said first and said second boundary (Fig. 2 step 118 shows the left and right edge coordinates and col. 6 line 41 teaches summing the pixels in a line which is the distance between the edges).

It would have been obvious to one of ordinary skill in the art to calculate the size of an image by the method of Son in the image size detecting step of Gusmano. The motivations for doing so would have been to save memory space by providing proper clipping to only save what is needed in the memory (Son col. 2 lines 3-4), to provide a more robust edge detection algorithm (Son col. 6 line 48), and to perform size detection without the use of extra hardware or

a pre-scan (Gusmano performs prescan col. 3 line 38) because the edge detection is completed not by hardware units but by software steps in controller/processor 50 as shown in Fig. 3 of Son.

Regarding claim 10, which depends from claim 5, which depends from claim 5, Gusmano teaches all of the limitations of parent claim 5 including **(f) calculating at least one of a magnification and a reduction to scale said dimension of said original image to fit at least one of said length and said width of said copy medium** (Fig. 2 step S11, col. 3 lines 17-20, wherein a scaling factor is computed to determine the size the original would be to fit on the output medium, further shown in Figs. 3 and 4).

While Gusmano teaches detecting the size of an input document (col. 3 line 40), Gusmano does not specifically teach using pixel boundary locating for this detection.

Son teaches:

(a) identifying a plurality of said scan data corresponding to a line of scanned pixels (col. 5 line 10 teaches processing of a line of pixels, thus having been identified)**;**

(b) locating a detected pixel of said original in a line of scanned pixels (col. 5 line 37 teaches working with a group of successive pixels, thus implying detecting pixels)**;**

(c) repeating steps (a) and (b) for another line of scan data (Fig. 2 step 108, col. 6 line 58, wherein the detection process is repeated for a plurality of lines)**;**

(d) locating a first boundary of said original from said location of at least one of said detected pixels of at least one line of scanned pixels (Fig. 2 step 104, wherein an edge is located from the location of pixels in the scan line)**; and**

(e) calculating a dimension of said original image from said location of said boundary (Fig. 2 step 118 shows the left and right edge coordinates and col. 6 line 41 teaches summing the pixels in a line which is the distance dimension between the edges).

It would have been obvious to one of ordinary skill in the art to calculate the size of an image by the method of Son in the image size detecting step of Gusmano. The motivations for doing so would have been to save memory space by providing proper clipping to only save what is needed in the memory (Son col. 2 lines 3-4), to provide a more robust edge detection algorithm (Son col. 6 line 48), and to perform size detection without the use of extra hardware or a pre-scan (Gusmano performs prescan col. 3 line 38) because the edge detection is completed not by hardware units but by software steps in controller/processor 50 as shown in Fig. 3 of Son.

Regarding claim 11, all of the method steps of claim 11 are the same method steps as claimed in claim 10 as it depends from claim 5. Therefore, claim 11 is rejected for the same reasons as stated above in the rejections of 5 and 10.

Regarding claim 12, which depends from claim 11, Gusmano further teaches the steps of:

(a) storing said scan data (the bottom of col. 2 to the top of col. 3 teach the storing of scanned data into memory); **and**

(b) printing said copy from said stored scan data (col. 3 line 4 discusses the microprocessor retrieving scan data from memory and line 25 teaches the final printing of said stored scan data).

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Son and Gusmano as applied to claim 11 above, and further in view of Furuoya.

Regarding claim 13, which depends from claim 19, Gusmano and Son teach all of the limitations of parent claim 11.

While the combination of Gusmano and Son teach the scanning, size detection, and auto-size adjusting of an original, the combination does not specifically teach calculating the number of scan lines.

Furuoya teaches a scanning system for document size detection including calculating the number of scan lines (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size) as including in **the steps of:**

(a) identifying a first scan line corresponding to a first boundary of said original (counting of the lines implies identifying the lines to count and the first boundary is identified as the reset location at the end of a page scan; see col. 3 line 62 where the document line counter is reset when the end is reached);

(b) identifying a second scan line corresponding to a second boundary of said original image (counting of the lines implies identifying the lines to count and the second boundary is identified in order to reset to the start location at the end of a page scan; see col. 3 line 62 where the document line counter is reset when the end is reached); **and**

(c) determining a number of scan lines intervening between said first and said second scan lines (Fig. 4 line counter 23_2, col. 3 lines 60-61, wherein the lines are counted to determine document size).

It would have been obvious to one of ordinary skill in the art to detect document length, as in Son with the method of Furuoya, namely detecting the length of a document by counting the scan lines as well known to those of ordinary skill in the art. The motivation for doing so

would have been to provide more correct document size calculations (col. 2 lines 4-5, wherein the method of Furuoya provides for correct detection of positions of edges).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US-59992758 Hagihara 12/7/1999: teaches an image reader with size and length detection including working with pixels to determine boundaries.

US-5099336 Moriya 3/24/1992: teaches a copy machine and process capable of copying plural reproduced images from single original on a same copying paper.

US-5144452 Abuyama 9/1/1992: teaches an image forming apparatus that scans an image, calculates the size and has the ability to output a plurality of copies on one output.

US-6473525 Cheung et al. 10/29/2002: teaches a method for processing pixels to detect an image edge.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 703-306-3440. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine
Examiner
Art Unit 2624

ljd

DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600